

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**

DOE's Tribal Energy Program



*Renewable Energy & Efficiency for Alaska Native
Community Development Workshop*

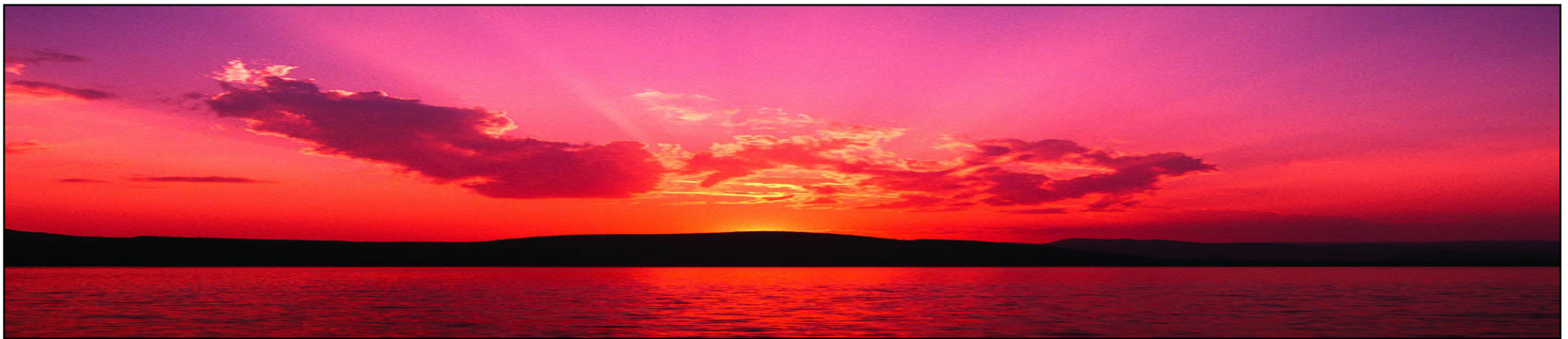
October 16, 2012

Lizana Pierce, Project Manager
U.S. DOE, Tribal Energy Program



DOE's Tribal Energy Program

Promote Tribal energy sufficiency, economic development, and employment on Tribal lands through the use of renewable energy and energy efficiency technologies.



DOE's Tribal Energy Program



Mission

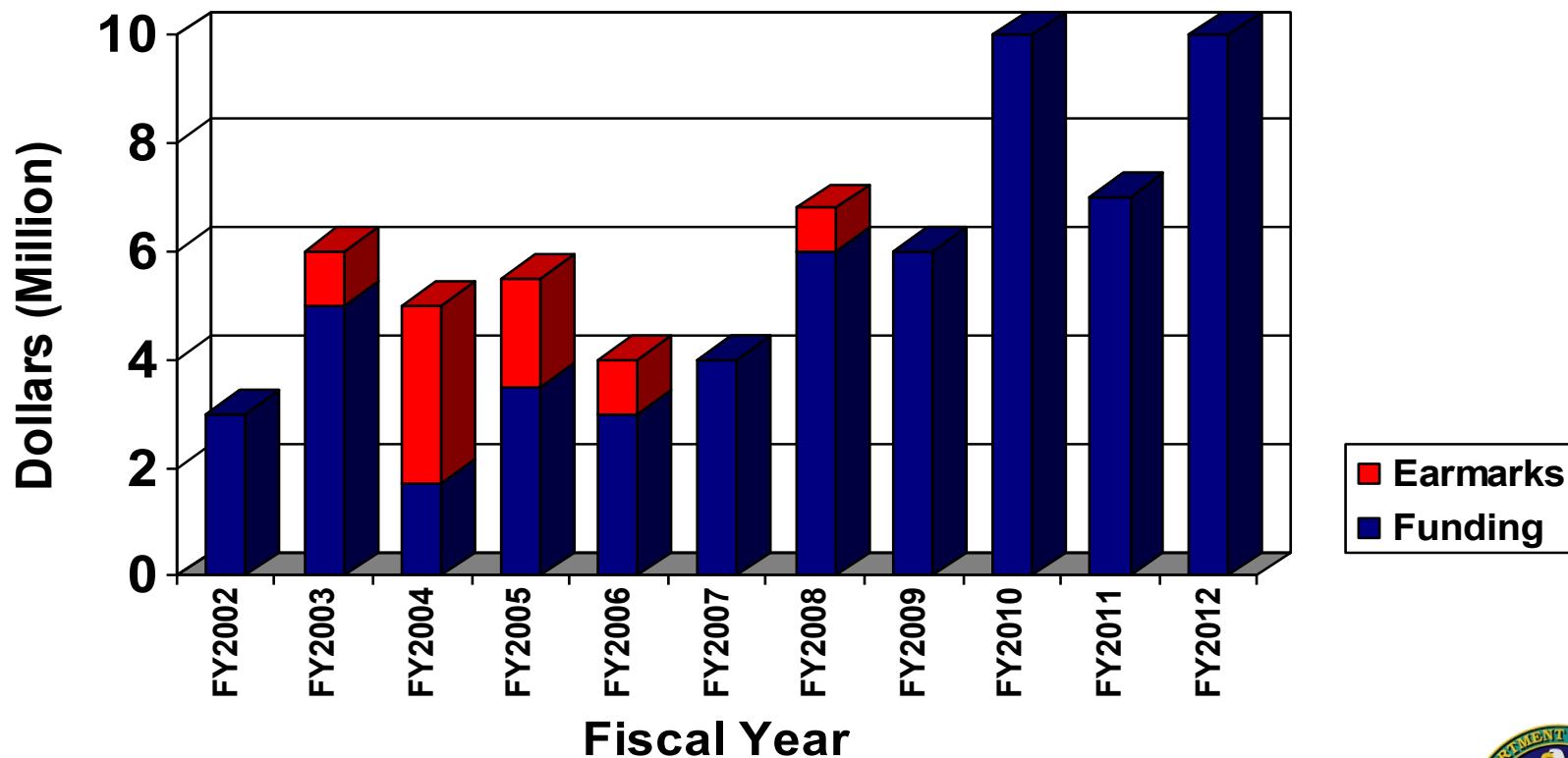
Offering financial and technical assistance to Tribes through government-to-government partnerships that:

- 1) Enable Tribal leaders to make informed decisions about energy choices;***
- 2) Bring renewable energy and energy efficiency options to Indian Country;***
- 3) Enhance human capacity through education and training;***
- 4) Improve local Tribal economies and the environment; and***
- 5) Make a difference in the quality of life of Native Americans.***



DOE's Tribal Energy Program

Program Funding History



Averages \$6.0 million per year





Tribal Energy Program Funding*

	<i>FY2009</i>	<i>FY2010</i>	<i>FY2011</i>	<i>FY2012</i>
<i>DOE Request</i>	<i>\$1.0</i>	<i>\$6.0</i>	<i>\$10.0</i>	<i>\$10.0</i>
<i>Appropriated Funds</i>	<i>\$6.0</i>	<i>\$10.0</i>	<i>\$7.0</i>	<i>\$10.0</i>

Per the President's FY2013 Budget Request, \$7 million requested for Tribal Energy Program

* Amounts in Millions



DOE's Tribal Energy Program **Three Pronged Approach**

**Financial
Assistance**

*Success through
Government-to-
Government
Partnerships*

**Technical
Assistance**

*Leveraged through
Intergovernmental
Coordination*

Information & Education

*Leveraged with Intra-
governmental
Coordination*



Providing Financial Assistance

Providing financial and technical assistance to Tribes for the evaluation and development of renewable energy resources and energy efficiency on Tribal Lands

Eligibility:

Federally-recognized Tribes, Tribal Energy Resource Development Organizations, or Tribal Consortia (two or more entities, at least one of which is an Indian Tribe).



Tribal Lands include Indian reservations; Public domain Indian allotments; Former Indian reservations in Oklahoma; Land held by under the provisions of the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.); and Lands held in fee simple or under a Federal land lease.

All Funds Awarded through a Competitive Process



FY2011 Financial Assistance

Financial Assistance to Spur Deployment in Indian Country

- **First Steps Toward Developing Energy Efficiency and Renewable Energy on Tribal Lands**
 - Strategic energy planning
 - Energy options analysis
 - Energy organization development
 - Human capacity development
- **Energy Efficiency Development and Deployment in Indian Country**
 - Feasibility studies
 - Installation of energy efficiency improvements
- **Renewable Energy Development and Deployment in Indian Country**
 - Feasibility studies
 - Development (pre-construction) activities
 - Deployment (construction) activities



Solar arrays on home on the
Navajo Nation



Competitive Process (2002-2012)

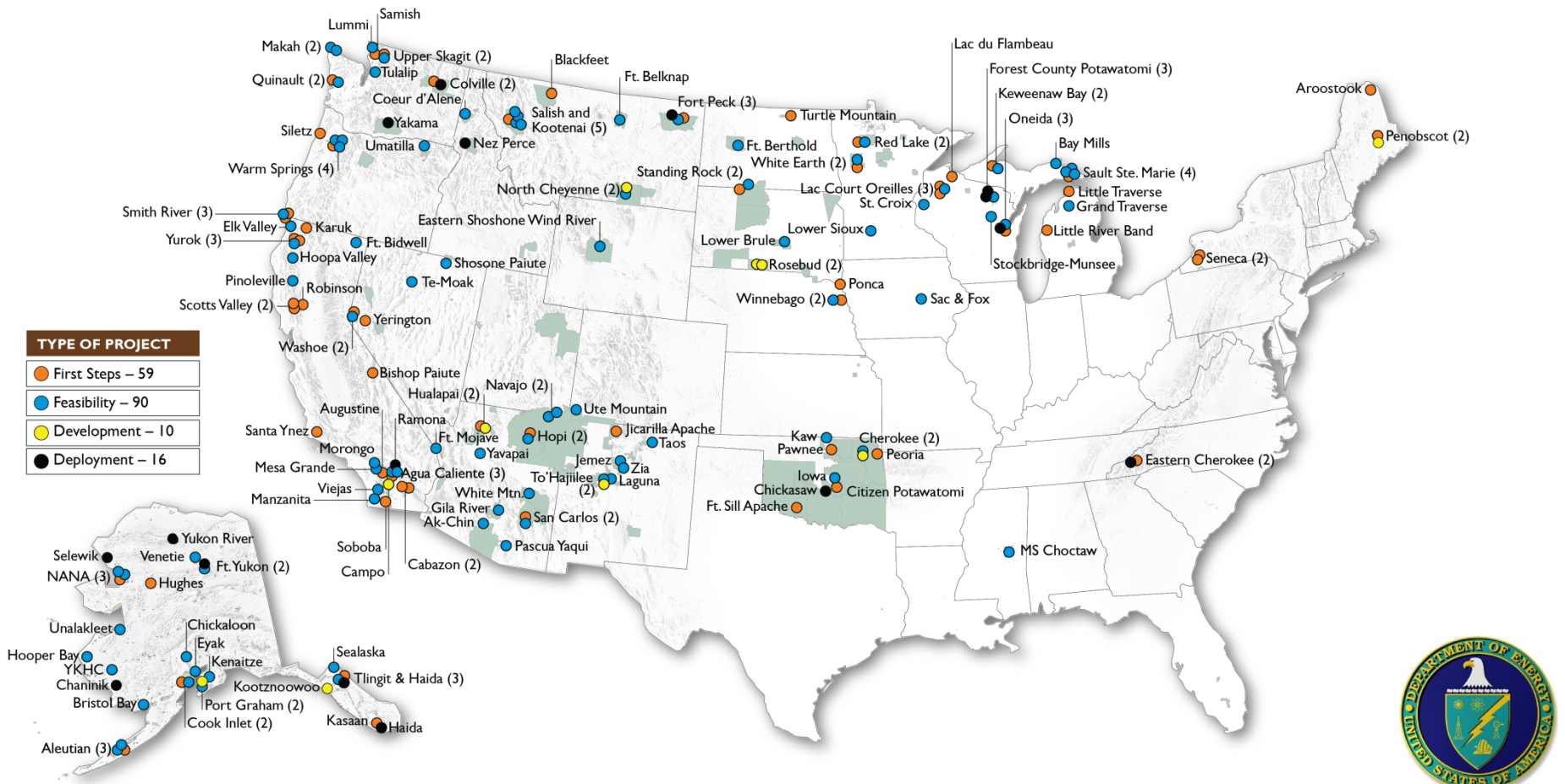
Accomplishments

- **15 Funding Opportunities Announcements issued**
- **Total of 565 applications accepted** (valued at \$276 million)
- **84% of meritorious applications funded** (Total of 175 of 208)
- **Funded 31.0% of all applications received** (using multi-year funds, if needed). **DOE average is ~5 to 10%.**
- **Funded 122 Different Tribes** (21.6% of the 566 Tribes)

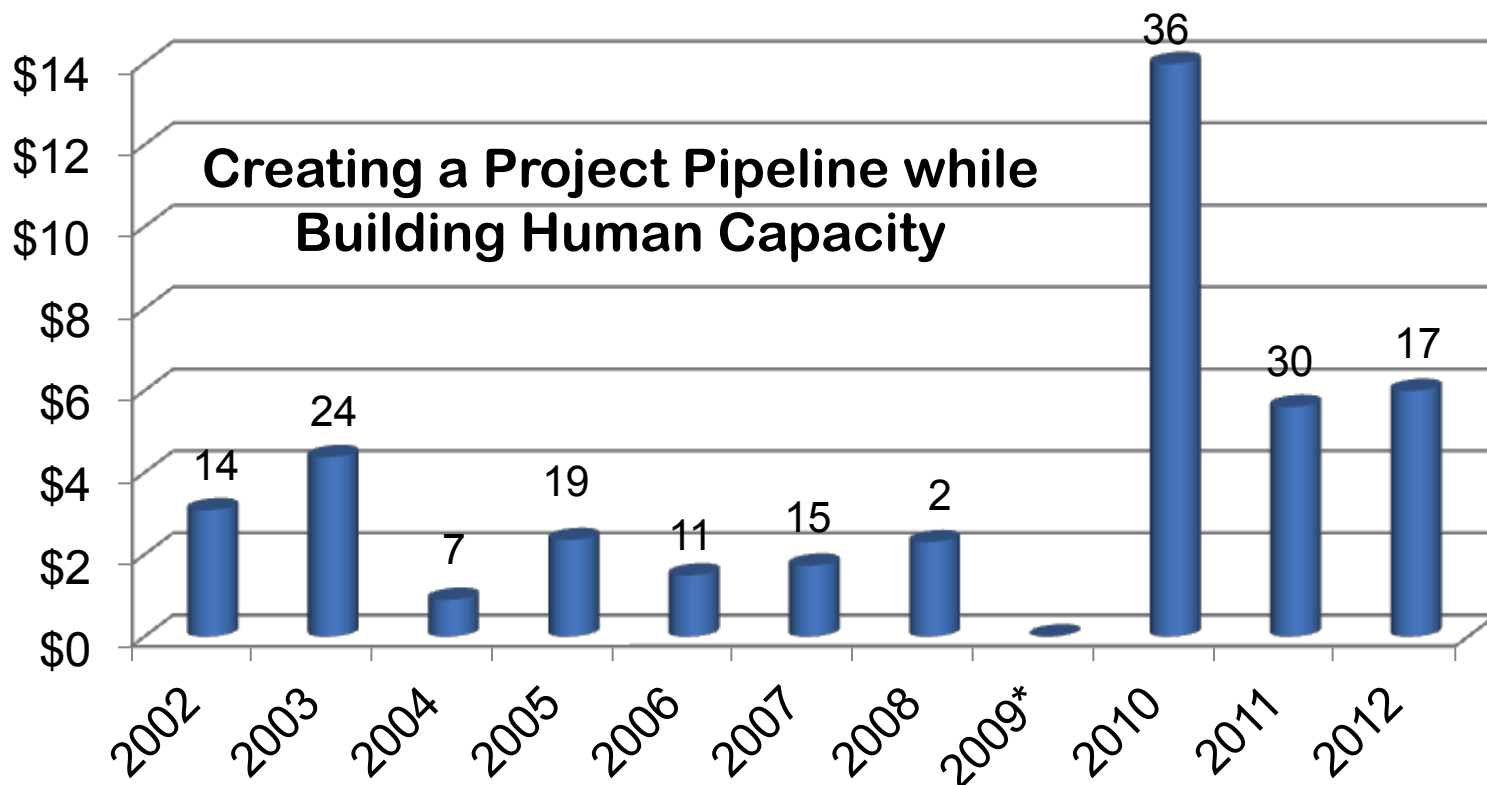
Over 80% of all Discretionary Funding Directly to Tribes



DOE has Invested \$41.8 Million in 175 Tribal Energy Projects (2002-2012)



Project Funding History



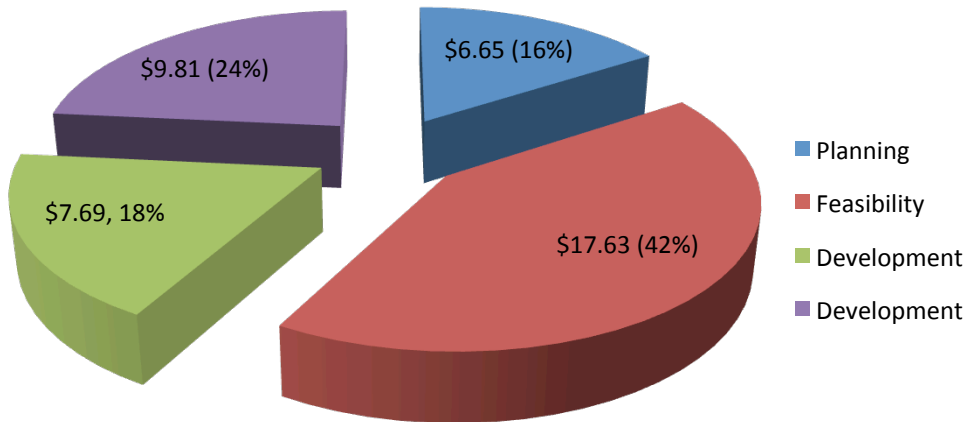
* FY2009 funds carried over and used to fund projects awarded in FY2010

Investment in Tribal Energy Sufficiency

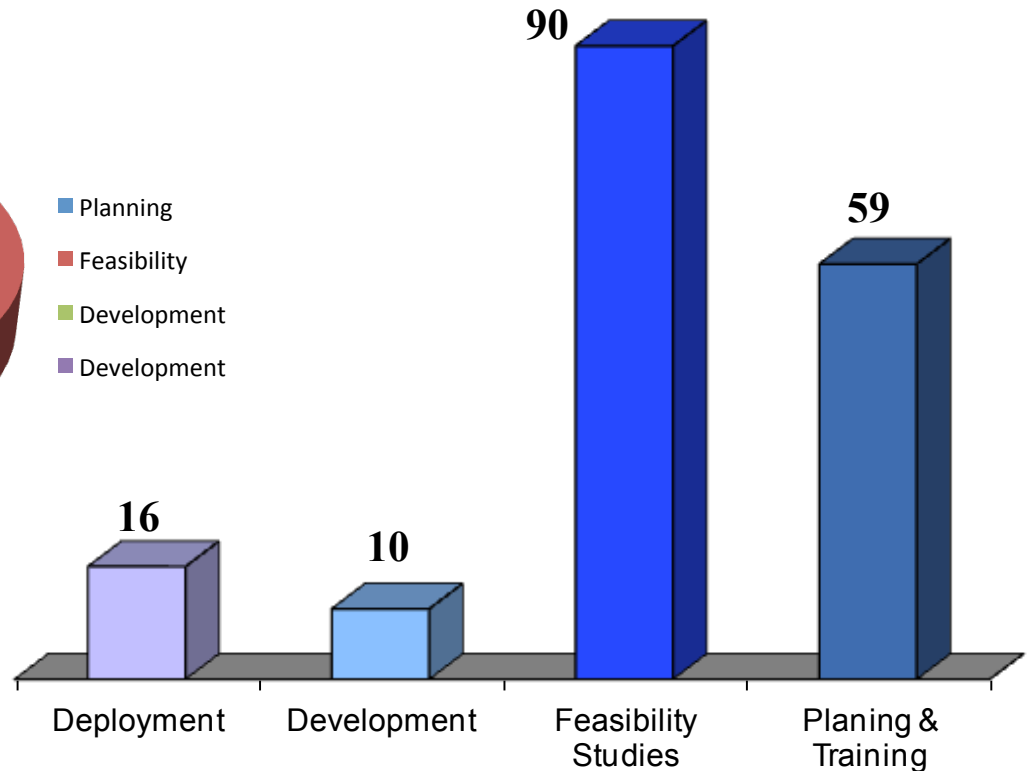


Tribal Energy Project Pipeline

DOE Funding by Award Type



Clean Energy Projects in Various Stages of Development

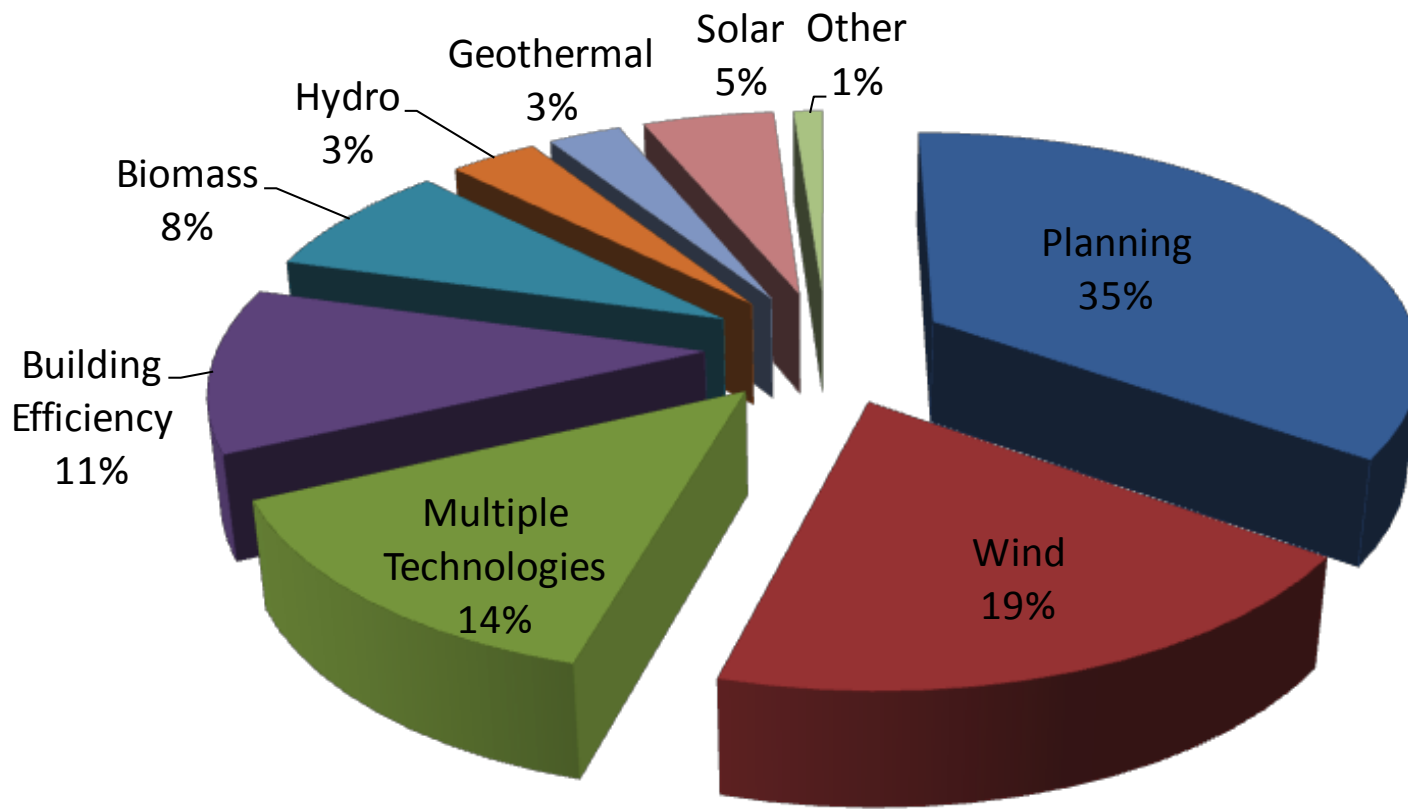


Assisting Tribes Fulfill Their Energy Vision



Tribal Energy Project Pipeline

(Percentage of project counts)



Diversity of Resources and Interests



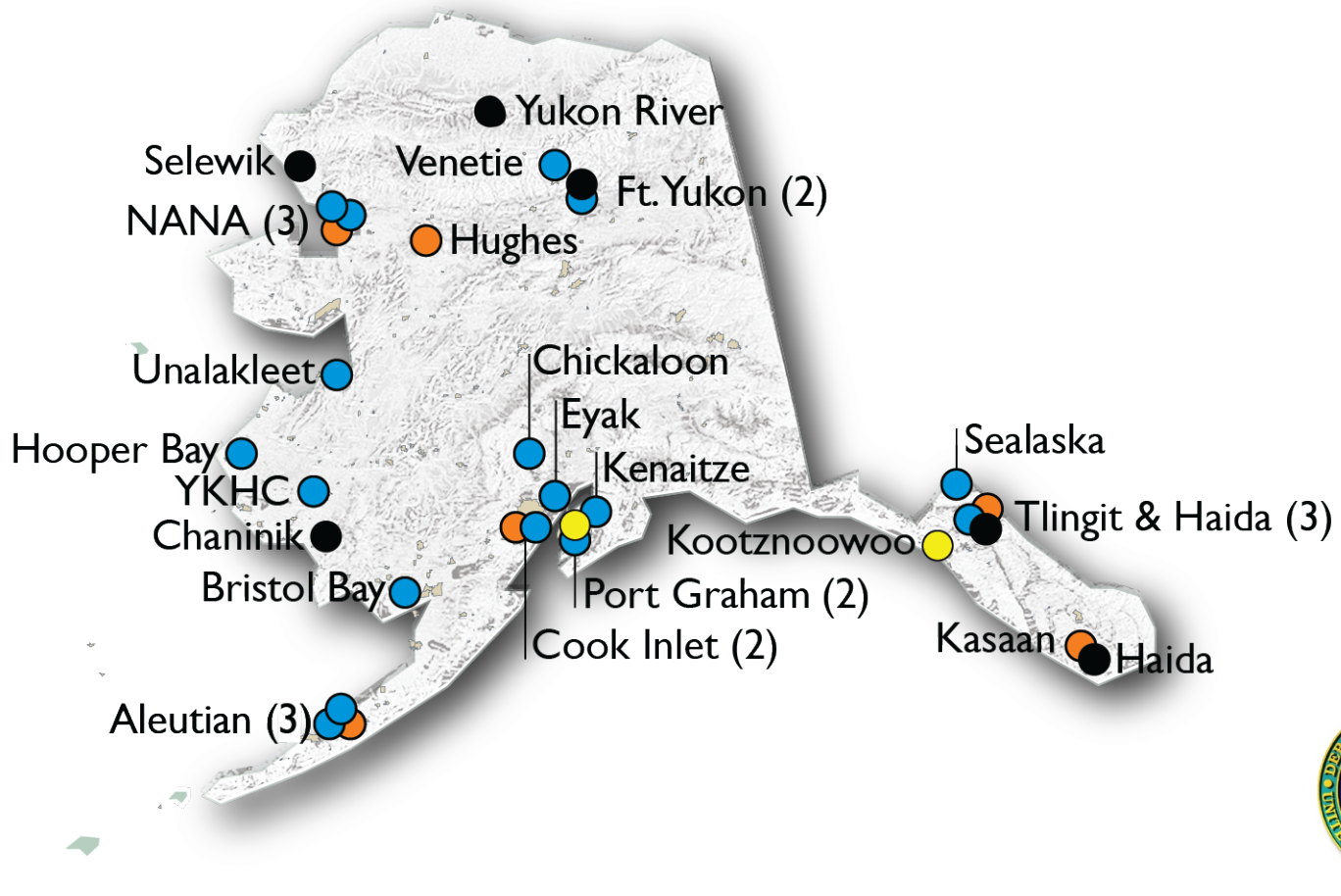
Project Accomplishments

Return on \$41.8 Million DOE Investment

- Over 11 MW of new generation and savings of 280,000 gallons of diesel and propane
- Retrofitting 64 tribal buildings saving nearly \$9 Million over 10 years
- Over 780 MW of new renewable generation under development
- Potential of over 4,000 MW of new generation, if developed
- Energy audits of over 240 tribal buildings
- Training over 150 tribal members

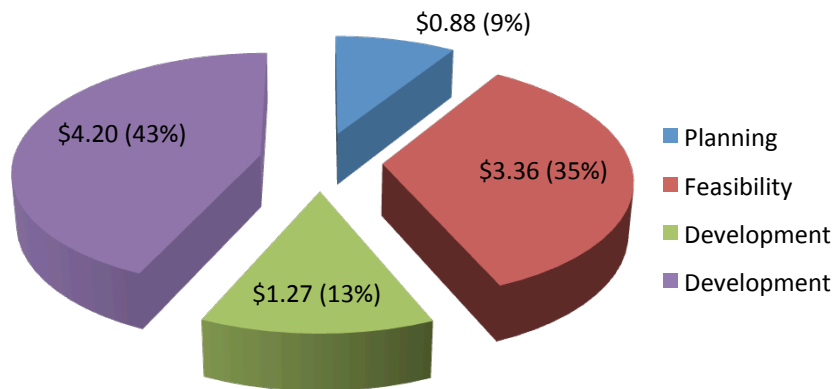


Investment of \$9.7 Million in 31 Alaska Energy Projects (2002-2012)

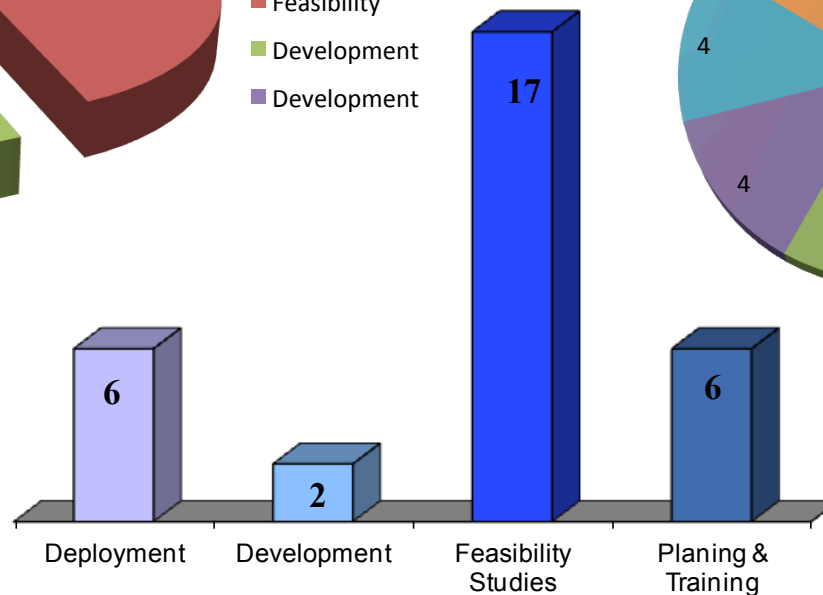
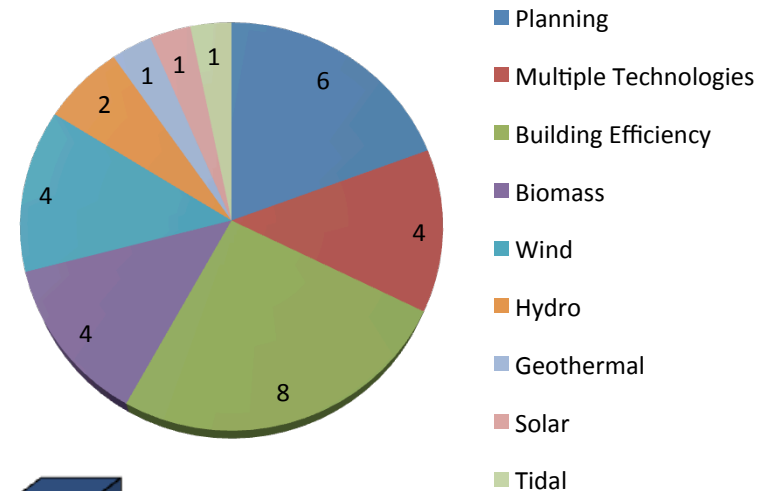


Alaska Energy Project Pipeline (2002-2012)

DOE Funding by Project



AK Projects by Technology (31)



Alaska Project Accomplishments

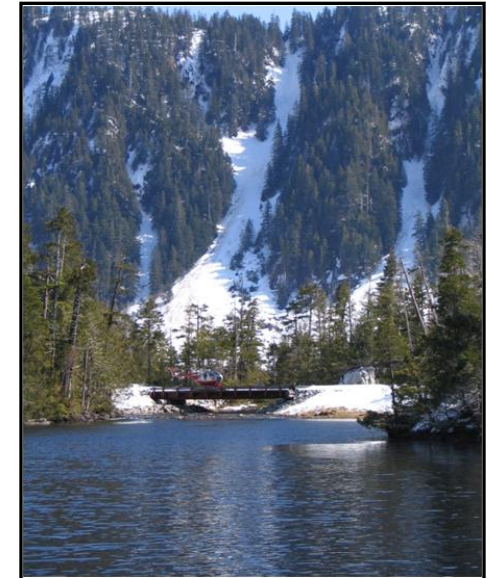
Renewable Energy Deployment in Indian Country

Renewable Energy Deployment Projects



Chaninik Wind Group's
Thermal Heating Project (AK)

**Council of Athabascan
Tribal Government (CATG)**
Biomass Heating Project in
Fort Yukon (AK)



Haida Corp's
Reynolds Creek 5MW Hydro
Project in Angoon (AK)



Alaska Project Accomplishments

Deployment to Save Energy for the Future

Building Retrofit Projects

Alaska Native Tribal Health Consortium (ANTHC) upgrading sanitation facilities in Selawik, AK



Central Council Tlingit & Haida Indian Tribes of Alaska (CCTHITA) retrofitting 4 buildings for projected annual savings of \$52,271 (AK)



Yukon River Inter-Tribal Watershed Council (YRITWC) installing energy efficiency measures for the Nunamiut people of Anaktuvuk Pass to reduce energy use by 34%



Alaska Project Accomplishments

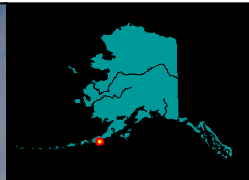
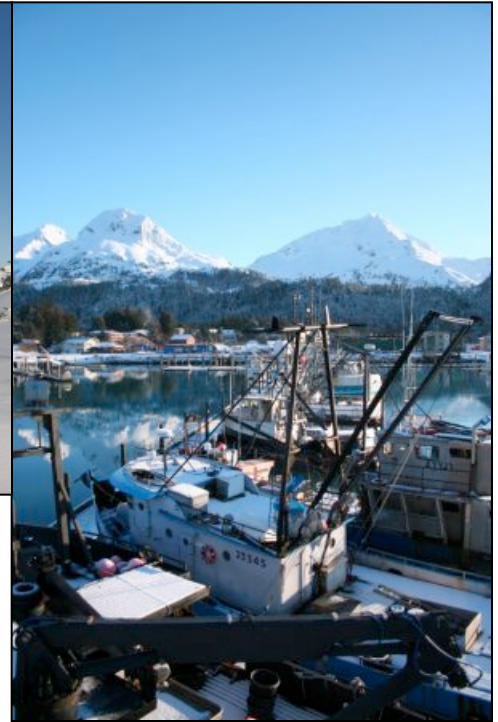
Assessing the Feasibility of Renewable Energy



Chickaloon Village Traditional Council assessing use of renewables through their Uk' e koley (No Footprint) project



Native Village of Eyak assessing the potential for wind in Cordova, Alaska



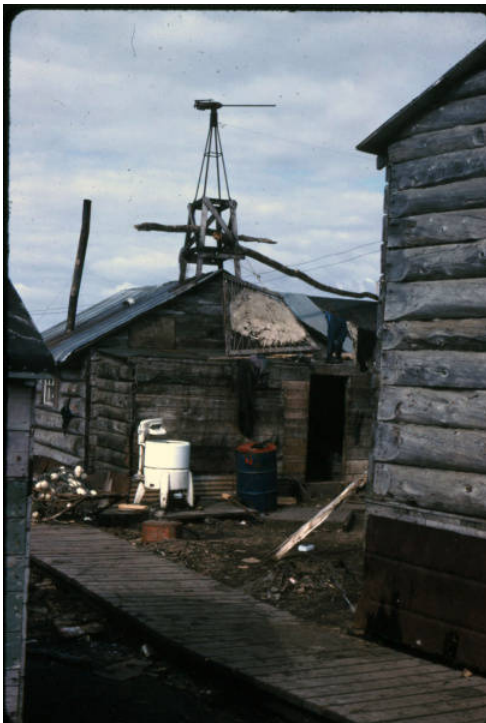
Aleutian Pribilof Island Association (APIA) assessed wind potential in the Aleutian Islands

Sand Point wind turbines projected to save 152,000 gallons per year



Alaska Project Accomplishments

Understanding Energy Use and Building Human Capacity



Sea Lion Corp to conduct energy audits on 24 homes in Hooper Bay, Alaska



Cook Inlet Tribal Council training two apprentices in weatherization (4,000 hour program). Apprentices to graduate February 2012 and be hired to serve local communities.

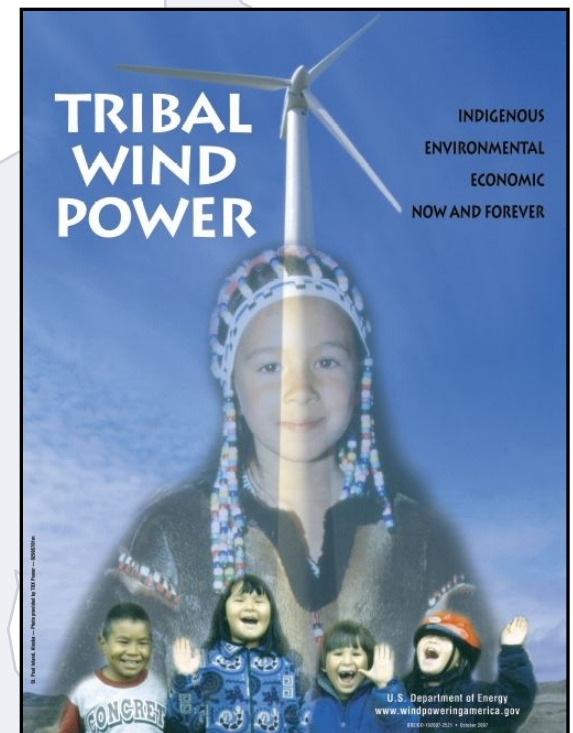


Tlingit Haida Regional Housing Authority (THRHA) to conduct energy audits on over 50 buildings and train technicians in Southeast Alaska (AK)



Education & Training

- Annual Program Review
- National Workshops
- Tribe Specific or Regional Trainings
 - Upon Request and within available resources
- Student Internships
- On-line “Guide to Tribal Energy Development”
- On-line Short Courses (workshop material)
- Informational Resources (handbooks & guides)
- Webinars (real-time and archived)



Building Human Capacity in Indian Country



Annual Program Review

Unique Tribal Forum for Sharing and Learning

- Forum for Tribes to meet and learn from other Tribes pursuing energy sufficiency through renewable energy and energy efficiency, and share their successes
- Networking & learning opportunity
- Tribal project presentations – lessons learned
- Forty to fifty (40-50) Tribal energy projects presented
- Typically 200-250 participants



Annual Review November 13-16, 2012 (Denver, CO)



Student Summer Internships

Applications

- Applications due each February
- 12 week internship at Sandia National Laboratories (NM)
- See TEP website for application form or “Join email list”

Immersion into Renewable Energy

- Interns gain hands-on experience on renewable energy systems
- Required to produce a research paper as part of the internship

Interns

- Twenty-seven (27) interns sponsored since 2002

Contact

- Sandra Begay-Campbell at (505) 844-5418 or skbegay@sandia.gov

Student Papers & Testimonials Posted on TEP Website

2008 Interns' participated
in PV installation & training
workshop (AZ-Hopi)



Deborah Tewa (certified electrician & solar installer) at Sandia's PV Laboratory (2002)



Tribal Energy Program



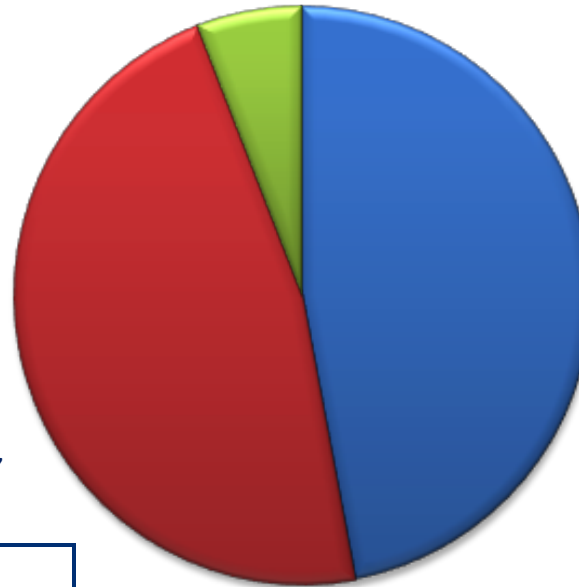
Intern Gathering at Southwest RE Conference, Flagstaff, AZ

Pictured: Suzanne Singer, Gepetta Billie, Sandra Begay-Campbell, Carson Pete, Terry Battiest, Prestene Garnenez

2002 - 2012

- 27 undergraduate & graduate interns have participated
- 16 different Tribal affiliations
- 12 different majors
- 26% of the interns were converted to year-round status (7 of 27)
- 11% of the interns were hired as FTEs or Sandia contractor (3 of 27)

Type of Work for Former Interns



■ Tribal Related Work

- Tribal Energy Consultant
- Navajo Tribal Utility Authority
- AZ RE Community College
- RE Technical Company
- Inst. Of American Indian Art
- Udall Foundation
- NM Council of Governments
- Tribal Planner

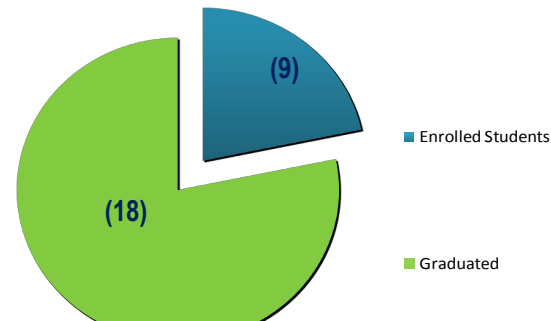
■ Non-tribal Engr/ Science Work

- Sandia Nat'l Laboratories
- Lawrence Livermore Nat'l Labs
- DOE Golden Field Office
- Lockheed Martin
- INTEL
- Kellogg

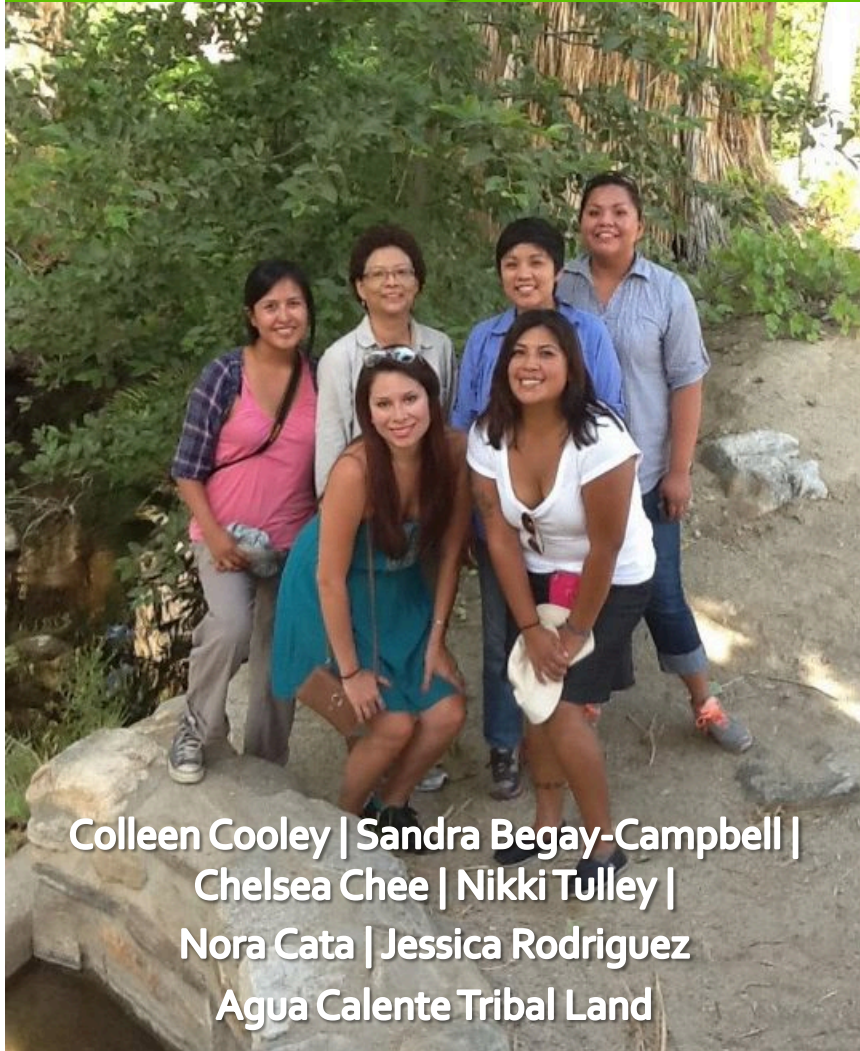
■ Seeking Employment

- 2011 Summer Graduates

Graduation Rate of Interns



Tribal Energy Program



**Colleen Cooley | Sandra Begay-Campbell |
Chelsea Chee | Nikki Tulley |
Nora Cata | Jessica Rodriguez
Agua Caliente Tribal Land**

Sponsors: EERE Tribal Energy (TEP) & DOE Indian Energy (IE)

Nora Cata (Seneca-Cayuga) - TEP

MS – Environmental Studies, San Jose State; BA – Environmental Studies,
UC-Santa Barbara

Her paper entitled: *“Sustainable Rural Electrification on the Navajo Nation:
What Makes a Successful Off-grid Photovoltaic Installation?”*

Chelsea Chee (Navajo) - TEP

MS – Community & Regional Planning, UNM; BS – Environmental Planning &
Design, U of AZ

Colleen Cooley (Navajo) - TEP

MS – Climate Science & Solutions, Northern Arizona University; BS–
Environmental Studies, NAU

Her paper entitled: *“Mitigating Climate Change on a Tribal Level”*

Jessica Rodriguez (Laguna) - IE

BS – Environmental Studies, Haskell Indian Nations University

Her paper entitled: *“How the Sale of Tribal Renewable Energies to the US
Military can be Mutually Beneficial - Case Study Pueblo of Isleta”*

Nikki Tulley (Navajo) - IE

BS – Environmental Studies, University of New Mexico

Her paper entitled: *“Adapting Renewable Energy Systems for a Changing
Climate in Remote Tribal Communities–Navajo Nation, Arizona”*

**“I came to realize that renewable energy adoption is a learning process for everyone involved....Each
tribe had its own motivations and perspectives with implementation as unique as the individual
cultures themselves.”**

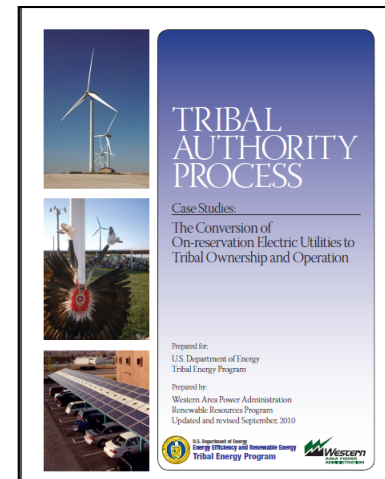
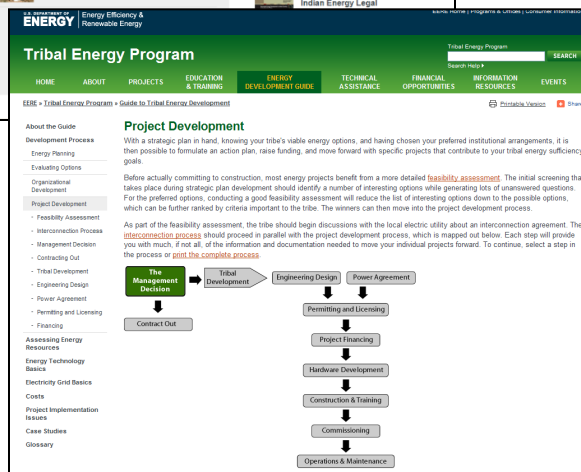
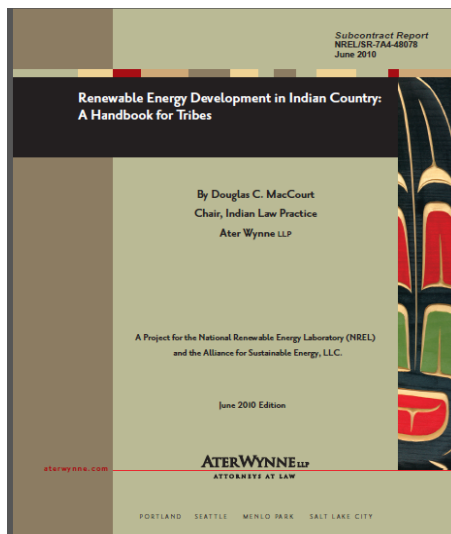
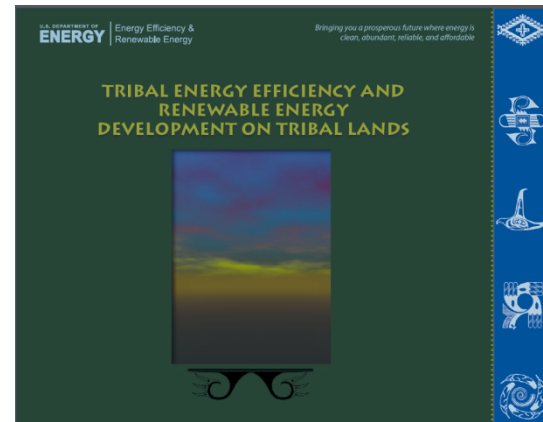
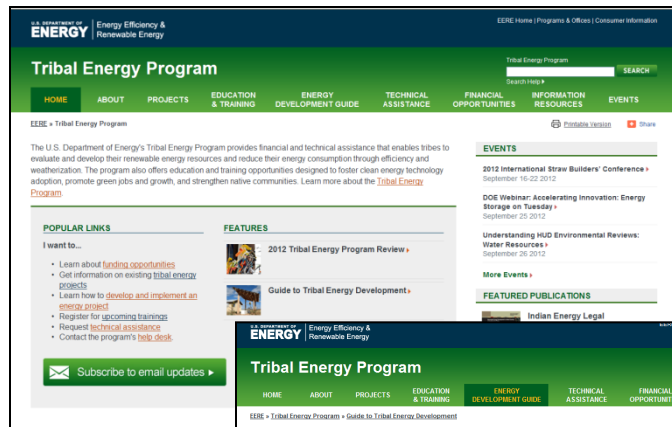
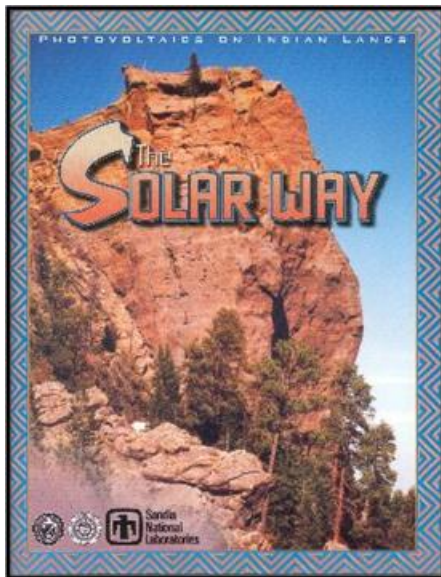


U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Tribal Energy Program

Information Resources



Informational Materials

Short Courses

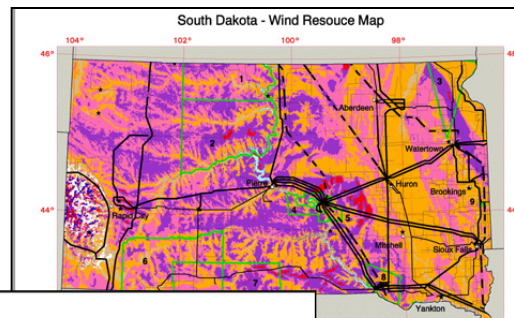
- Analysis & Economics
- Business & Financing
- Community Development
- Demand-side Options
- Renewable Technologies

Handbooks & Guides

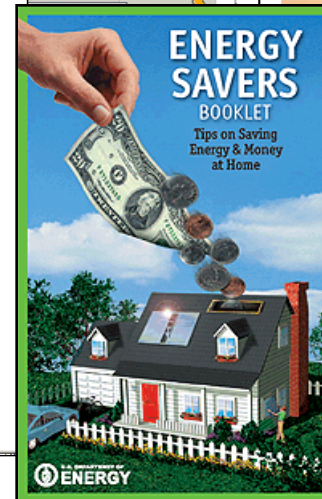
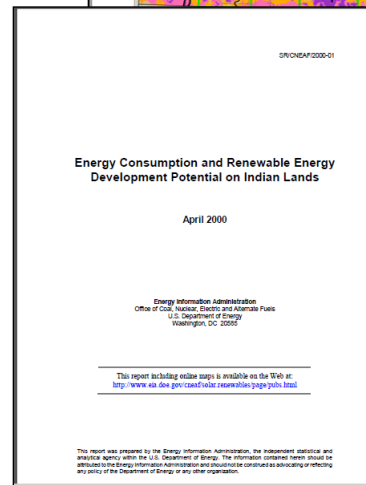
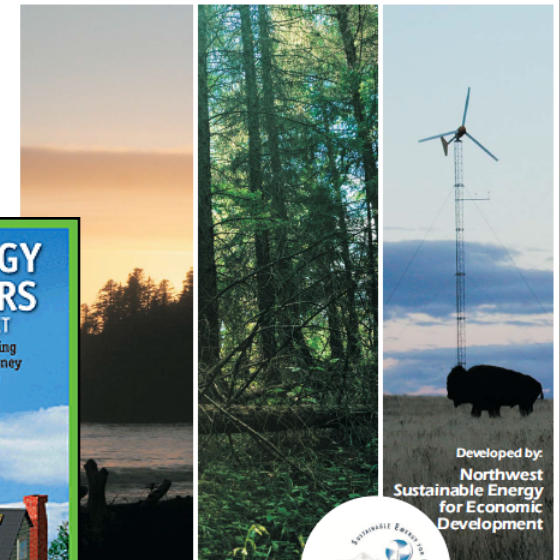
- A Guide: Energy Planning
- Energy Consumption and Renewable Energy Development on Indian Lands
- A Handbook: Renewable Energy in Indian Country

Tools & Models

- Resource Potential Maps
- Reservation Specific Wind Maps



Energy Planning: A Guide for Northwest Indian Tribes

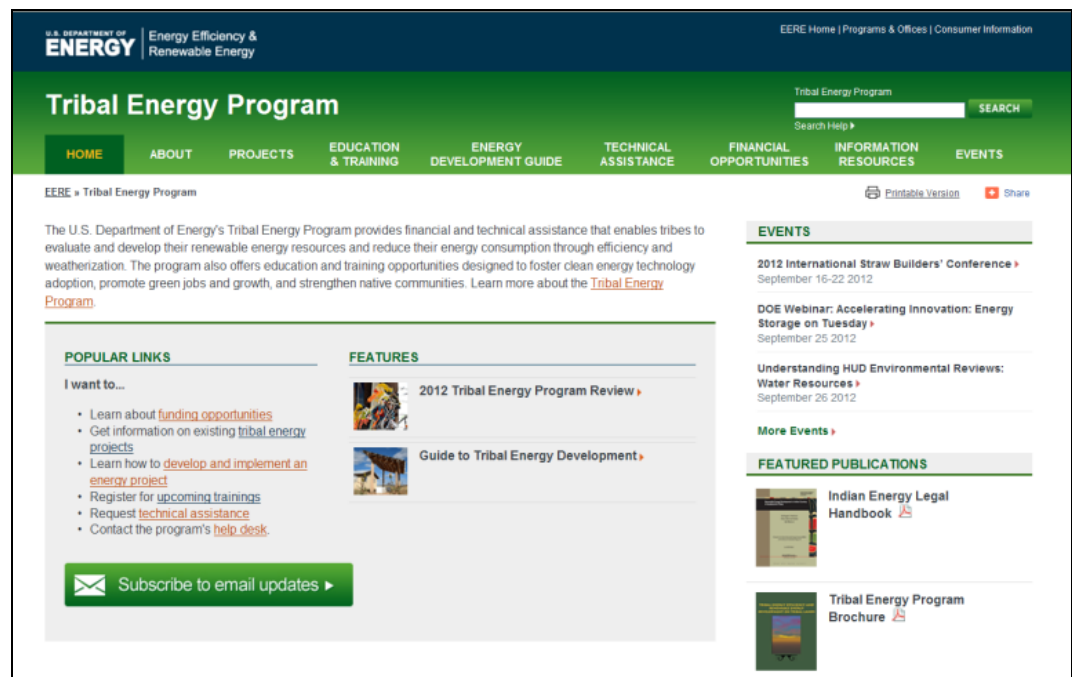


All Material Posted on Program Website



Program Website

- Features
- Program Brochure
- Upcoming Events
- Short Courses
- Education & Training
- Financial Opportunities
- Projects on Tribal Lands
 - Project Summaries
 - Status and Reports
 - Contacts
- Information Resources
- Join Email List
- Contacts



Clearinghouse of Information

www.eere.energy.gov/tribalenergy



Program Website

Projects on Tribal Lands

- Project Lists Sorted by
 - Tribe
 - Award year
 - Award type
 - Technology
- Project Map (List by State)
- Project Summaries
 - Overview
 - Scope
 - Location
 - Status
 - Presentations
 - Final reports
 - Tribal contacts

Projects on Tribal Lands

The Tribal Energy Program supports a variety of energy-related institutional capacity to manage their energy needs, assessed have demonstrated the viability of installing renewable energy s

To see a list of tribal energy projects [by state](#), select a state of

- [Tribe](#)
- [Technology](#)
- [Fiscal year of award](#) (when it was initially funded)
- [Award type](#) (feasibility study, demonstration project, etc.)

Each project has a detailed description that includes a tribal co

Agua Caliente Band of Cahuilla Indians - 2005 Project

Project Description
The Agua Caliente Band of Cahuilla Indians will establish a comprehensive energy strategic plan that captures economic and environmental benefits while continuing to respect tribal cultural practices and traditions. Their goal is to understand their current and future energy consumption, and they will develop a strategic energy plan, including an action plan to clearly identify the energy options for the tribe. The project is anticipated to have a positive impact on the tribe; promote greater understanding of energy efficiency; establish partnerships with energy stakeholders, including electric and natural gas suppliers; and position the tribe to be influential with regional energy development.

Project Status
The project is complete. For details, see the final report (PDF 490 KB [↗](#)). The October 2005 (PDF 217 KB [↗](#)) and October 2006 (PDF 3.0 MB [↗](#)) presentations provide additional information. [Download Adobe Reader](#).

Project Contact
Todd Hooks (760.883.1350)

Project Overview

Tribe/Awardee:	Agua Caliente Band of Cahuilla Indians
Location:	Palm Springs, CA
Project Title:	Development of a Strategic Energy Plan
Type of Application:	First Steps
DOE Grant Number:	DE-PS36-05G015173
Project Amounts:	DOE: \$89,312 Awardee: \$15,393 Total: \$104,705
Project Status:	Completed More >
Project Period of Performance:	Start: September 2005 End: August 2006

Assuring Visibility of Tribal Projects



“Guide to Tribal Energy Development”

Development Process

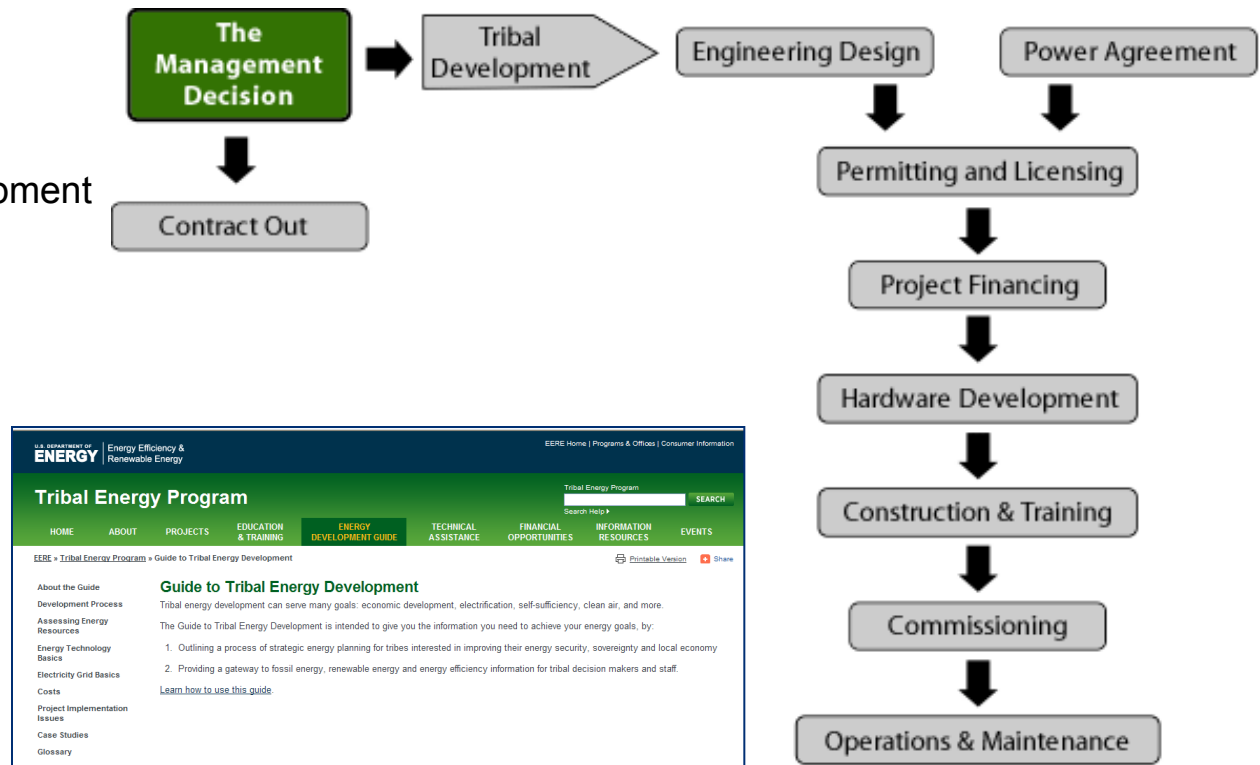
- Strategic Planning
- Options Analysis
- Organizational Development
- Project Development

Business & Financing

- Short Courses
- Handbooks

Resource Library

- Energy Resources
- Technologies
- Costs
- Risk Factors
- Legal Issues
- Financing Options
- Contacts



Clearinghouse of Information

www.eere.energy.gov/tribalenergy/guide



Email Notices

As subscribers, Tribes receive email newsletters on:

- The Tribal Energy Program's training opportunities and events
- Funding opportunities through our program and other federal programs and agencies
- Other news and information related to Tribal energy.

Simple On-line Subscription

- Over 3,200 subscribers
- 100's of email notices sent each year
- Distributed through other Tribal and Agency list serves – Expands distribution
- On-line inquiries available

The screenshot shows the 'Tribal Energy Program' website with a green header. The main content area is titled 'Subscribe to Email Updates' and includes a 'Thank you' message and a list of topics. Below this is a form with fields for 'First Name', 'Last Name', 'Type of Affiliation', 'Name of Affiliation', 'Title/Position', 'Address', 'City', 'State', and 'Zip Code'. A 'Quick Links' sidebar on the left lists 'Funding Opportunities', 'Upcoming Trainings', 'Email Updates', and 'Help Desk'.

Join Our Email List
www.eere.energy.gov/tribalenergy



Assisting Tribes Achieve Their Energy Vision



Rosebud Sioux's (SD)
Little Soldier Turbine
First 750 kW Turbine on
Tribal Lands in the
Contiguous U.S.



Solar arrays on **Navajo** home (AZ)



Solar Installations at **Pueblo of Laguna's**
Majors Ranch (NM)

A 6kW PV System at **SIPI's** Science and
Technology Building (NM)



Jicarilla Apache Reservation PV
array on Dulce High School (NM)



Assisting Tribes Achieve Their Energy Vision



Assiniboine & Sioux Tribes install two 50 kW wind turbines on the Fort Peck Reservation (MT)



Forest County Potawatomi Community will retrofit Wunder Hall, a historic building on Concordia Campus (WI)



Colville Indian Power and Veneer Energy Substation (WA)

Ramona Band (CA)
Renewable Powered
Eco-tourism Project



Assisting Tribes Achieve Their Energy Vision

Oneida Nation's Housing Authority will conduct energy audits on 44 buildings (WI)



Campo Band's Wind Farm
DOE funding Phase II
(160 MW)



Northern Cheyenne Tribe
completed wind feasibility
study and began pursuing
wind 30MW wind farm
(anemometer at sunset, MT)



Rosebud Sioux's (SD) Little Soldier
Turbine - Pursuing a 30 MW and 190
MW Wind Farm



Assisting Tribes Achieve Their Energy Vision

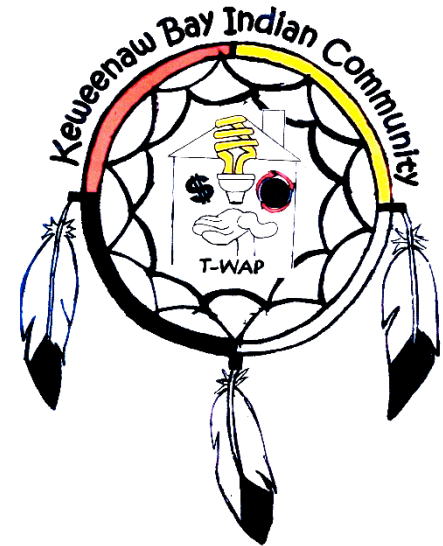


Cabazon Band of Mission Indians
Energy Plan (CA)

Ponca Tribe
conducting an energy analysis and community awareness under their “Project Earth Lover” Campaign (NE)



Keweenaw Indian Community (MI)
trained members in weatherization: 9 energy auditors; 8 envelop professionals; and 38 air sealing insulation installers. Logo contest winner shown below.



Sault Ste Marie's Tribal Health Clinic and Community Center, one of 45 buildings which will have energy audits (MI)

Tlingit Haida Regional Housing Authority (THRHA) to conduct energy audits on over 50 buildings in Southeast Alaska (AK)



Questions?

Lizana Pierce, Project Manager

Department of Energy

Golden Field Office

Telephone: (303) 275-4727

Fax: (303) 275-4753

Email: lizana.pierce@go.doe.gov

To receive periodic email information on funding opportunities, upcoming workshops and training, and other tribal energy information **“Join Our Email”** by subscribing on-line at www.eere.energy.gov/tribalenergy

